REMARKS

Claims 1-17 and 23-26 are pending in the present application. In the Office Action mailed June 30, 2004, the Examiner made the restriction of claims 18-22 final to which a Petition is filed concurrently herewith requesting rejoinder of the restricted claims. The Examiner rejected claims 11-17 under 35 U.S.C. §112, second paragraph, as being indefinite. The Examiner next rejected claims 1-3 and 11 under 35 U.S.C. §102(b) as being anticipated by Kim et al. (KR 2001081459 A). Claims 1-7 and 11-16 were rejected under 35 U.S.C. §102(b) as being anticipated by Eberts et al. (USP 6,218,921). Claims 8-10, 17, and 23-26 were rejected under 35 U.S.C. §103(a) as being unpatentable over Eberts et al.

Before responding substantively to the Office Action of June 30, 2004, in the Restriction Requirement of February 26, 2004, the Examiner identified two Groups of claims consisting of Group I identified as including claims 1-17 and 22-26, and Group II consisting of claims 18-21. In response thereto, Applicant elected, with traverse, what the Examiner identified as Group I consisting of claims 1-17 and 22-26. In the Office Action of June 30, 2004, the Examiner, in making the restriction final, withdrew claims 18-22 from consideration. Applicant elected Group I identified by the Examiner as including claim 22. The Examiner's withdrawal of claim 22 from consider contradicts the Examiner's original grouping of the claims. Moreover, the Examiner has not provided any basis as to why claim 22 has been re-grouped within a non-elected group. As such, Applicant requests rejoinder of claim 22 with Group I as originally presented by the Examiner. Moreover, if the Examiner maintains this "new" grouping of claim 22 within the non-elected Group, Applicant requests the opportunity to traverse the Examiner's new grouping gin a non-final response.

The drawings were objected to as failing to comply with 37 CFR 1.84(p)(5) because they include a reference sign not mentioned in the description and further objected to under 37 C.F.R. §1.84(p)(4) because the reference character "48" has been used to designate two different parts. Applicant has amended the specification to refer to adapter 48 as shown in Figs. 2 and 3. Applicant has also submitted herewith a Replacement Sheet for original drawing sheet 2 such that reference number 48 is consistent in Figs. 2 and 3. Accordingly, Applicant requests withdrawal of the objections to the drawings.

The Examiner rejected claims 11-17 under 35 U.S.C. §112, second paragraph as being indefinite stating that "[i]t is unclear what is meant by the phrase "a permanent magnetic separated from the armature …." Applicant has amended claim 11 to correct the typographical

error and has changed the term "magnetic" in line 4 of claim 11 to "magnet" in accordance with the Examiner's interpretation of the term. Applicant appreciates the Examiner's suggestion.

The Examiner rejected claims 1-3 and 11 under 35 U.S.C. §102(b) as being anticipated by Kim et al. stating that "Kim et. al discloses ... a movable magnetic object ... configured to receive a magnetic force when current is induced in the single coil and a permanent magnet [27] having a fixed polarity that repels the moveable magnetic object when current is induced in the single coil and attracts an end of the movable magnetic object when no current is induced in the single coil." Applicant respectfully disagrees.

Claim 1 calls for, in part, a permanent magnet that repels a moveable magnetic object when current is induced in a single coil and attracts an end of the movable magnetic object when no current is induced in the single coil. Kim et al. states that "[a]nother valve body (22d) formed in the lower portion of a tube (22a) inserted with the extension of the armature is adhered to a valve seat (12a) when the armature is maintained in an initial preset state." Detailed Description, (emphasis added). That is, in the initial preset state, as shown in the Figure, valve body 22d is adhered to the valve seat 12a. Additionally, being an initial preset state can only be interpreted as the coil being de-energized. As shown in the Figure, when the coil is not energized, spring 30 biases the valve body against the valve seat. Additionally, as shown in the Figure, in the initial preset state, armature sliding portion (23a) and magnet reception groove (25a) forms a separation between magnet 27 and armature body 21. As such, when no current is induced in electric coil 24, there is no attraction being the magnet and the armature. If there were any attraction, minimally, magnet 27 would be positioned in magnet reception groove 25a. Additionally, it is apparent that when current is induced in electric coil 24, an attraction is formed between magnet 27 and armature body 21a that overcomes the force of spring 30. As such, magnet 27 does not repel the armature body 21a when current is induced in the electric coil 24. It is apparent that when the solenoid assembly is in the initial preset state, as shown in the Figure, there is no current in electric coil 24 and there is therefore no attraction, as called for in claim 1, between magnet 27 and armature body 21a. It is also apparent that when current is induced in electric coil 24 there is an attraction, and not repulsion as called for in claim 1, of magnet 27 and armature body 21a. Simply, that which is disclosed in Kim et al. operates in a manner opposite that which is called for in claim 1. As such, that which is called for in claim 1 is not shown or disclosed in Kim et al.

The Examiner rejected claim 11 under 35 U.S.C. §102(b) as being anticipated by Kim et al. stating that "Kim et al. discloses ... a permanent magnet [27] separated from the armature by a non-magnetic spacer [25] wherein the permanent magnet attracts the armature when the single

coil is de-energized and repels the armature when the single coil is energized." As set forth above, such is clearly not shown in Kim et al. As shown in the Figure of Kim et al., when electric coil 24 is de-energized and the solenoid is in its initial preset state, magnet 27 is not attracted to armature body 21a, as called for in claim 11, as evidenced by the empty magnet reception groove 25a between magnet 27 and armature body 21a. If there were such an attraction, minimally, magnet 27 would be positioned proximate armature body 21a in magnet reception groove 25a. Additionally, it is apparent that when electric coil 24 is energized, magnet 27 and armature body 21a would be attracted thereby translating valve body 22a away from valve seat 12a. As such, when electric coil 24 is energized, magnet 27 attracts, and does not repel as called for in claim 11, armature body 21a. Accordingly, that which is called for in claim 11 is not shown in Kim et al.

Furthermore, above and beyond the patentable distinctions addressed above, Applicant would like to remind the Examiner that rejections based on abstracts alone are generally considered improper. MPEP §706.02. As is widely recognized, abstracts are often misleading, inaccurate, and incomplete. As such, MPEP §706.02 is clear that abstracts should only be relied upon in very limited circumstances. Specifically, "[i]n limited circumstances, it may be appropriate for the examiner to make a rejection in a non-final Office action based in whole or in part on the abstract only without relying on the full text document. In such circumstances, the full text document and a translation (if not in English) may be supplied in the next Office action." *Id.* As such, should the Examiner maintain the rejection in any form, Applicant hereby requests the Examiner provide an English translation of the full text of KR 2001081459A with any subsequent action and that Applicant be afforded an opportunity to reply in a non-final response.

Further, it is noted that as identified by the MPEP, "[a]n abstract can have a different effective publication date than the full text document." MPEP §706.02. As such, Applicant questions whether the Abstract of KR 2001081459A is even valid prior art. Therefore, should the Examiner persist in relying upon the Abstract of KR 2001081459A , the Examiner is asked to provide proof of the effective date of the Abstract.

The Examiner next rejected claims 1 under 35 U.S.C. §102(b) as being anticipated by Eberts et al. stating that "Eberts et al. discloses ... a moveable magnetic object [15] disposed within a bore of a single coil ... and a permanent magnet [65] having a fixed polarity that repels the moveable magnetic object when current is induced in the single coil and attracts an end of the movable magnetic object when no current is induced in the single coil." Applicant respectfully disagrees.

Claim 1 calls for, in part, a moveable magnetic object disposed within a bore of a single coil. As shown in Fig. 3 of Eberts et al., the bore of coil 57 is occupied by stationary pin 31 with compression spring 51 positioned thereabout. Plunger 15 is prevented from entering the bore of coil 57 by stationary pin 31. As such, the plunger of Eberts et al. is not disposed with a bore of the coil as called for in claim 1.

Claim 1 further calls for a permanent magnet having a fixed polarity that repels the moveable magnetic object when current is induced in the single coil and attracts an end of the movable magnetic object when no current is induced in the single coil. Eberts et al. states that:

> The helical compression spring 51 biases the plunger 15 away from the seat 41 toward an extended or actuated position shown in FIG. 4. However, when the plunger is pushed inward so that the flange forming a first end 55 seats against the seat 41, the permanent magnet field generated by the magnets 65 is sufficient to overcome the bias generated by the spring and thereby magnetically latch the plunger in the retracted position shown in FIG. 3.
>
> The coil 57 is wound such that when energized it generates an electromagnetic field which bucks the permanent magnet field generated by the permanent magnets 65. The bias force generated by the spring then exceeds the magnetic latching force and the plunger is driven by the spring to the actuated position shown in FIG. 4. With the coil deenergized, the actuator can be reset by physically pushing the plunger back to the retracted position.

Col. 4, lns. 50-65.

That is, when coil 57 is energized, it generates a magnetic field sufficient to allow spring 51 to overcome the attractive force of plunger 15 to stationary pin 31. As such, it is the spring that repels the plunger when current is induced in the coil and not the permanent magnet as called for in claim 1. Simply, the attractive force between plunger 15 and stationary pin 31 exists regardless of whether the coil is energized or de-energized. When the coil is energized, the magnetic attraction between stationary pin 31 and plunger 15 is reduced to a point where spring 51 can overcome or buck any electromagnetic attraction therebetween. As such, it is not the permanent magnet of Eberts et al. that repels the moveable magnetic object but the spring.

Additionally, when coil 57 is de-energized, and plunger 15 is physically pushed against stationary pin 31, the magnetic field generated by permanent magnet 65 is sufficient to overcome the force of spring 51 and maintain plunger 15 in contact with seat 41 of stationary pin 31; however, permanent magnet 65 does not attract plunger 15 as Eberts et al. discloses resetting the actuator by physically pushing the plunger back to the retracted position. As such, that which is called for in claim 1 is clearly not shown, taught, or suggested in Eberts et al.

The Examiner also rejected claim 11 under 35 U.S.C. §102(b) over Eberts et al. The Examiner has merely taken the individual of elements of claim 11 and found correlating structures in the art with complete disregard for the claimed interrelationship of those individual elements. Specifically, claim 11 calls for a movable armature disposed within a single coil. As previously stated with respect to claim 1, the plunger of Eberts et al. is not disposed within the coil disclosed therein. The only moveable component mounted within the coil is a compression spring which is mounted about the stationary pin. As such, Eberts et al. does not disclose, teach, or suggest that which is called for in claim 11.

Claim 11 further calls for a permanent magnet wherein the permanent magnet attracts the armature when the single coil is de-energized and repels the armature when the single coil is energized. As previously argued with respect to claim 1, the permanent magnet of Eberts et al. does not repel the plunger then the coil is energized. Movement of the plunger of Eberts et al. is performed by the spring and by physically pushing the plunger into contact with the stationary pin. Simply, there is always magnetic attraction between the permanent magnet and the plunger of Eberts et al. For all the reasons set forth above, that which is called for in claim 11 is clearly not disclosed, taught, or suggested in Eberts et al.

The Examiner next rejected claims 8-10, 17, and 23-26 under 35 U.S.C. §103(a) as being unpatentable over Eberts et al. generally stating that "Eberts et al. teaches the claimed invention with the exception of using shunt components." In addition to the distinctions argued above, in order "[t]o establish a *prima facie* case of obviousness …, the prior art reference (or references when combined) must teach or suggest all the claim limitations." MPEP §2142. As the Examiner acknowledges, the art of record does not include all of the claim limitations. As such, such a rejection is clearly improper.

The Examiner rejected claims 23 under 35 U.S.C. §103(a) as being unpatentable over Eberts et al. Applicant has amended claim 23 to further define that the armature is configured to move linearly through a bore of the single coil. As previously argued with respect to claim 1, the moveable armature of Eberts et al. is not configured to move through a bore of the coil. The bore of the coil of Eberts et al. is occupied by stationary pin 31. As such, that which is called for in claim 23 is not taught or disclosed in the art of record and is patentably distinct thereover.

In light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 1-17 and 22-26.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned, should the Examiner consider any matters unresolved.

Respectfully submitted,

John Mark Wilkinson
Registration No. 48,865
Direct Dial 262-376-5170
jmw@zpspatents.com

Dated: 8/17/2004
Attorney Docket No.: SSPI0015.001

P.O. ADDRESS:
Ziolkowski Patent Solutions Group, LLC
14135 North Cedarburg Road
Mequon, WI 53097-1416
262-376-5170